



NESN's two 32-fader C100 digital broadcast consoles from Solid State Logic are at the core of a digital infrastructure that will allow multichannel audio broadcast in the future. Shown here is chief audio mixer Mike Testa at the console in Audio Control Room 1. Photos by Dave King.

NESN

hits a home run with its new HD facility

BY SUSAN ANDERSON

When Boston Red Sox fans want to watch their team play, the New England Sports Network (NESN) provides just the ticket. Seen in more than 4 million homes throughout the six New England states, the network broadcasts about 150 Red Sox games each season, as well as in-depth pre- and post-game shows.

In addition to baseball, the network covers more than 70 Boston Bruins games each season; regional college sports; sports talk shows featuring columnists from *The Boston Globe*; outdoor programming; and "NESN SportsDesk," the network's sports and highlights program.



The studio used for "NESN SportsDesk" — the network's daily sports news and highlights program — employs Sony HDC910 studio cameras with Canon DIGISUPER 25xs lenses.

A new playing field

In September 2003, the network began broadcasting Red Sox games in HD. However, NESN's goal was to originate *all* in-house programming in HD. Plus, it was outgrowing its small space in Fenway Park, which had just one studio and one control room. It was time for a new facility.

The network had three technical goals for its new space:

- Replace the infrastructure with a wideband digital core that's HD-capable.
- Update the facility to allow HD transmissions and studio productions

Design team

The Systems Group (TSG)

Joe Difrisko, project manager

John Zulick, design engineer

Venue Services Group (VSG)

Josh Einstein, project manager

Mike Young, design engineer

NESN

Dave Desrochers, chief engineer

Les Correia, asst chief engineer

in HD.

- Update the infrastructure to allow for future technology enhancements.

To turn this game plan into a reality, the network recruited two systems integrators, The Systems Group (TSG) and the Venue Services Group (VSG). While the TSG was in charge of main engineering and master control room

that's 40ft x 50 ft and one that's 50ft x 50ft.

All-star line-up

For the control rooms, the network selected equipment from Sony. At the core of production control is a Sony MVS-8000 switcher. The network had a Sony switcher in its previous build-

NESN's goal was to originate *all* in-house programming in HD.

facilities, the VSG handled production control rooms and editing suites.

After a year and a half of searching for the right space and after a year of construction, the project was complete. In February, the network moved into its new state-of-the-art facility in Watertown, MA. It more than triples the network's existing spaces within Fenway Park from 12,500sq ft to 40,139sq ft. The facility includes two control rooms, a master control room, seven edit rooms, a voiceover booth, engineering areas and two studios — one

ing, so NESN knew it was reliable. And by selecting the same equipment, the transition was smoother operationally. Plus, the switcher allows the network to have two control panels tied to one mainframe, which was a significant cost savings.

Flanking each production control room is a multiviewing processor wall made up of large LCD screens that can be divided into four screens.

For master control, the network selected an NVISION router and NV5128-MC multichannel master

**SYSTEMS
DESIGN
SHOWCASE**



At the core of production control is a Sony MVS-8000 switcher.

Technology at work

Canon DIGISUPER 25xs HD studio lenses
Chyron Duet HyperX HD/SD switchable CG
Evertz MVP multi-image display and monitoring systems
EVS HDXT[2] disk recorder
Leitch
Nexio NX4200HD server
Nexio NX4000TXS shared storage server
Middle Atlantic racks
NVISION
NV5128-MC multichannel master control switcher
Multiformat router
RTS Adam intercom system
Solid State Logic C100 digital broadcast consoles
Sony
HDC910 HD studio cameras
MVS-8000 production switcher
Video monitors
Wohler audio monitors

control switcher. The switcher's software GUI interface enables flexibility in the design of master control. It's easy to program in order to make changes, which is important because the network pumps out four channels — three SD and one HD.

NESN's line-up also includes Sony HDC910 studio cameras with Canon DIGISUPER 25xs lenses. The network had been using these already since it began broadcasting Red Sox games in HD three years ago, so it purchased additional units for its HD studios.

Anchoring the studios are two Solid State Logic C100 digital broadcast consoles. The network chose the consoles because they're modular and fully programmable. Plus, the units will support the network's plan to go to 5.1-channel audio in the future.

The seven edit suits aren't all filled. The network brought over its existing editing systems and plans to replace them with a tapeless system this year.

Play ball

To support its goal of all-HD programming, the network employs gear

from Telecast Fiber Systems. Viper I, Viper II and Adder modular fiber-optic systems use 14mi of leased dark fiber lines from cable television and Internet service provider RCN to send all communications between its headquarters, sports venues and uplink facility. The systems also perform monitoring, as well as move audio and video signals from Red Sox and Bruins games to the new Watertown facility.

This allows the network to put three uncompressed HD feeds and a combination of analog and Ethernet feeds, in addition to L-Band satellite return monitoring feeds, on redundant RCN fibers. With this four-channel and eight-channel optical multiplexing capacity, the network is able to use fewer cross-town fibers for its transmissions. It also allows room for additional channels or signals in the future.

The new facility controls post-game shows and other programming from the linked venues, with sources coming directly into the network's new control room. The HD signal is compressed only at the satellite uplink; it remains uncompressed

SYSTEMS DESIGN SHOWCASE

from capture through production. As a result, images remain clean.

Also on NESN's roster is a Viper I Mussel Shell, a portable, modular enclosure that's HD-capable. The network uses the unit for coverage of home Red Sox games, during which its camera crew conducts pre-game interviews. These signals connect through the private fiber network all the way back to the new control room for remote production. In the past, the network managed this from its smaller control room at Fenway Park.

Box score

The new production center has proven to be a big win for NESN. Its operators now have plenty of room to move around. They're also thrilled to be able to produce two programs simultaneously and produce shows in



Shown here is NESN's videotape room with EVS operator Jim White (left) and producer Todd Kerrissey.

HD right from the studio — something they couldn't do before.

In fact, this year NESN became the first network to broadcast all its team's games in HD. Last year, it produced 176 HD programs, or 493 hours of HD programming. This year, the network plans to produce more than 1,200 HD

programs, or more than 3,330 hours of HD programming. With the new facility, NESN and its staff are at the top of their game.

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Susan Anderson is managing editor of Broadcast Engineering and Broadcast Engineering World magazines.

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